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Robert  
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[2345/103]

THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : Leonid BERESNEV, et al.  
Serial No. : 09/423,948  
Filed : April 14, 2000  
Title : INTERFEROMETER TUNABLE IN A NON-MECHANICAL  
MANNER BY A PANCHARATNAM PHASE  
Art Unit : 2882  
Examiner : George Y. Wang

Commissioner for Patents  
Washington, D.C. 20231

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231 on

Date: December 30, 2002

Signature: *Linda M. Shudy*  
Linda M. Shudy (Reg. No. 47,084)

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**TRANSMITTAL OF AMENDMENT AND REQUEST TO EXTEND**

SIR:

Please find an Amendment transmitted herewith for filing in the above-identified patent application.

The Commissioner is authorized to charge the appropriate fee, which is believed to be \$400.00 for the two-month extension (the three-month shortened statutory period ending October 29, 2002, being extended by two months to December 30, 2002 (since December 29, 2002 is a Sunday)), to Deposit Account No. **11-0600**, and is also authorized, as appropriate and/or necessary, to charge any additional fees (including any other Rule 136(a) extension fees) or credit any overpayment to Deposit Account No. **11-0600**. A duplicate copy of this transmittal letter is enclosed for those purposes.

Respectfully submitted,

By: *Linda M. Shudy*  
Reg. No. 47084

Dated: *December 30, 2002*

By: *Richard L. Mayer*  
Richard L. Mayer  
(Reg. No. 22,490)

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*Linda M. Shudy*  
Linda M. Shudy (Reg. No. 47,084)

AMENDMENT

SIR:

In response to the Office Action having mailing date of July 29, 2002, please reconsider the above-identified application based on the following.

IN THE ABSTRACT:

Please replace without prejudice the Abstract with the following:

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21  
An improved interferometer which does not require a drive mechanism for moving a reference surface or test object in order to tune the interferometer, and which can be tuned in virtually vibration-free manner, thereby preventing measuring errors. The interferometer has at least a light source, a reference surface, a test object and a beam splitter. For vibration-free tuning, the interferometer may contain an apparatus for the polarization of the interference beams such that, at the output of the interferometer, they have different polarization states relative to each other; and an analyzer, disposed at the output of the interferometer, with a polarization state that is variable in predetermined manner, the analyzer, as a function of its polarization state, introducing a defined Pancharatnam phase into the interference beams for tuning the interferometer.